

FY 2004 Exchange Network Grant Program Project Summaries

Grantee project descriptions are grouped by tribes, states, and territories; and within these groups, they are listed by grant category (i.e., Readiness, Implementation, or Challenge).

TRIBES -- READINESS GRANTS

Comanche Nation, Office of Environmental Programs (Oklahoma) – Readiness Grant

The Comanche Nation Office of Environmental Programs (CNOEP) will develop an Exchange Network node and use the Indian Health Service as its first data exchange collaborator. Once the mechanics and protocols of the data exchange program have been worked out, the CNOEP will develop an Internet website to share information with its other environmental program partners. The CNOEP will upgrade its computer infrastructure to include obtaining a suitable web server, connecting this server to a high-speed, broadband Internet service, replacing four existing CNOEP staff computers, installing a new office server, and installing appropriate software. The Comanche Nation will establish the permissions and protocols for sharing sensitive and proprietary information and assign the CNOEP the responsibility for acting as the database custodian. Appropriate firewalls and virus protection software will be installed to protect the CNOEP's database and hardware and software investments.

Confederated Tribes of the Umatilla Reservation, Tribal Planning Department (Oregon) – Readiness Grant

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) will enhance its data management system to improve the quality and frequency of data it shares with others through the Exchange Network. The project will focus on addressing performance issues with the tribe's local area network (LAN) that currently limit its data analysis and exchange capabilities.

Cortina Indian Rancheria of Wintun Indians, Environmental Protection Agency (California) – Readiness Grant

The Cortina Band of Wintun Indians, Cortina Rancheria, Wintun Environmental Protection Agency (WEPA) will expand and enhance its information systems to enable it to participate in the Exchange Network. The work plan includes the following:

1. Enhance and maintain the internal WEPA network and external website to provide the public with meaningful, real-time access to environmental data of the Cortina Indian Rancheria;
2. Establish a System Administrator position for network, data systems, and website management;
3. Acquire network computing and data management training for WEPA technical staff that will be responsible for the long-term management and maintenance of the program;
4. Acquire XML development and database training for WEPA technical staff that will be responsible for implementation and maintenance of the WEPA environmental data database and electronic reporting process; and
5. Continue implementation of WEPA's three to five year Environmental Information Reporting and Management Plan with a two-fold goal of both reducing report burdens and enhancing electronic reporting.

Kootenai Tribe of Idaho, Environmental Department (Idaho) – Readiness Grant

The Kootenai Tribe of Idaho (KTOI) Environmental Department will develop a node on the Environmental Information Exchange Network and use it exchange air quality and meteorological data with EPA's Air Quality System (AQS). The node will also be able to accommodate other types of environmental data flows related to water quality, Total Maximum Daily Load implementation plans, and geographic information systems (GIS). The tribe will develop the capabilities needed to make its air quality and meteorological data available to other Exchange Network partners through Web services.

Makah Indian Tribe, Environmental Division (Washington) – Readiness Grant

The long-term goal of the Makah Tribe's Information Exchange project is to strengthen the Tribe's environmental protection programs, by ensuring that tribal staff have ready access to comprehensible, reliable, and readily understood electronic data sources. Information exchange abilities do not currently exist within the Fisheries Department and the Environmental Division. The Makah Tribe use this grant to pursue the following activities:

1. Hire a consultant to assist with training a part-time Network Administrator and to perform the installation, upgrades and programming;
2. Develop a Network Assessment Plan to assess the Makah Tribe's current information technology (IT) network capacity;
3. Determine IT requirements to upgrade existing hardware and software as necessary;
4. Organize, consolidate and record current tribal databases and information sources;
5. Train staff to utilize the network; and
6. Conduct pilots with the network in specific media areas (using the EIEN to track local data within the Air Quality System).

Quinault Indian Tribe, Office of Grants and Contracts (Washington) – Readiness Grant

The Quinault Indian Nation (QIN) will focus on four goals:

1. Enhance the bandwidth of the QIN's computer network to facilitate data sharing and exchange;
2. Acquire a document management server to facilitate data control and security;
3. Implement a web server that would allow for internal publication of existing and future GIS data, and which would help facilitate future data sharing with external entities; and
4. Upgrade the GIS Program's computer workstations to accommodate the demands of the new ArcGIS software upgrade. The document sharing and GIS databases are targeted to include the following data: illegal and hazardous dump-sites, water quality parameters such as stream surface water temperature, dissolved oxygen, tribal environmental health statistics, and environmental air quality parameters.

Salt River Pima-Maricopa Indian Community of the Salt River Reservation, Community Development Department (Arizona) – Readiness Grant

The Salt River Pima Maricopa Indian Community (SRPMIC) Division of Cultural and Environmental Services on behalf of the Community Development Department (CDD/CES) will continue the development of an Internet standards-based information systems network that will facilitate the exchange of environmental data. This grant will continue the goal of streamlining the Community's e-commerce exchange capacity to provide real-time environmental data and information throughout all levels of government and the public, and enhance the way in which information is sent to and received by EPA.

The following proposed activities will be addressed in the FY2004 proposal to continue work commenced in FY2003:

1. National Emission Inventory (NEI). Develop the necessary components to facilitate the exchange and reporting of emission inventories to the EPA NEI database.
2. Facility Registry System (FRS). To better assist in the appropriate identification of facilities, this proposal seeks to establish the necessary infrastructure to enhance the reporting of facility information to EPA through the appropriate Exchange Network and make assessable to the public and other interested network partners.

Samish Indian Tribe, Natural Resources Program (Washington) – Readiness Grant

The Samish Indian Nation will develop a Web-Based System that allows the Natural Resource Program to share environmental data collected by the Tribe with local, state, and federal agencies. This project will help integrate information, provide real-time access to Tribal data, and support the electronic storage and collection of high-quality data and information. The Samish tribe has not received funding from the Exchange Network previously. The project will contribute to the overall development of the Environmental Information Exchanges Network by adding additional node and data. The project will be scalable and transferable to other Exchange Network partners. The results of the project will be shared with other Exchange Network partners. A QAPP will be developed for all projects. Proposed Activities: Wetlands delineation and boundaries on all Tribal properties, Anemometer Data Collection, Mercury testing in Lake Campbell, and Fidalgo Bay Water Quality Monitoring and Source Identification.

TRIBES – IMPLEMENTATION GRANTS

Big Valley Band of Pomo Indians of the Big Valley Rancheria, Tribal Government (California) – Implementation Grant

The Big Valley Band of Pomo Indians will establish a web service to enable the reporting by Tribe under the STORET system requirements. In addition to the Tribe's reporting for the public drinking water systems, it is desirable to develop compatible reporting system and data exchange system for surface water quality monitoring data collected in the Clear watershed. The Big Valley Band of Pomo Indians will support the web service to be available to six Lake County Tribes – Elem Indian Colony, Habematolel Pomo Indians of Upper Lake, Robinson Rancheria of Pomo Indians, Big Valley Band of Pomo Indians, Scotts Valley Band of Pomo Indians and Middletown Rancheria. These Tribes have formed the Hinthil Environmental Resources Consortium (HERC).

Objectives:

1. Participate in the reduction of the reporting burden on Tribes, States, and local governments.
2. Develop a Web service to implement reporting to SDWIS and National Hydrography Dataset.
3. Foster multimedia and geographic approaches to problem solving in Clear Lake watershed.
4. Provide the public with meaningful, real-time access to environmental data.

Cherokee Nation, Environmental Programs (Oklahoma) – Implementation Grant

The Cherokee Nation's Environmental Programs Group will develop data standards and XML schema for a tribal open dump data flow into the Exchange Network. These data standards and XML schema would be developed using tribal open dump data collected by Cherokee Nation Environmental Programs Group.

Goals for the project are to develop data standards and XML schema for exchanging Cherokee Nation open dump data and to prepare to exchange the open dump data with other partners using the Exchange Network. Project activities will include the following:

1. Conduct research on existing data standards and XML schema as they relate to developing an open dump data flow;
2. Work with EPA to determine the data repository for the open dump data flow;
3. Solicit interested parties for involvement in development of open dump data flow; and
4. Continue to develop Cherokee Nation node capability.

Confederated Salish & Kootenai Tribes of the Flathead Reservation, Air Quality Program (Montana) – Implementation Grant

The Confederated Salish & Kootenai Tribes will develop a Comprehensive Network Assessment Plan and a Network Management and Development Plan. The goal is to provide a vision that fully integrates the internal Local Area Network with a wireless Wide Area Network supported by a redundant fiber T1 backbone. An evaluation of the existing disparate technologies under this plan will synthesize the existing infrastructure into a harmonious modern network. These plans will use the Central Data Exchange (CDX) as a blueprint to follow to meet the Confederated Salish & Kootenai Tribal and EPA objectives. With a highly technical and experienced GIS program, the Confederated Salish & Kootenai Tribes have the ability to provide geospatial information and web-based data displays. The Confederated Salish & Kootenai Tribes plan to implement as a minimum, data flows to the Air Quality System (AQS) and the National Emissions Inventory (NEI). XML Schema will be incorporated into the database development and a website will display continuous data from reservation monitoring stations. The grant will include a placeholder for review of existing tribal EPA data streams which may include submissions to the Facility Registry System (FRS), Integrated Compliance Information System – National Pollutant Discharge Elimination System (ICIS-NPDES), improving the water quality Dazzler database and submittals in STORET format. Lastly the experiences of this work will be recorded in a Microsoft PowerPoint presentation to be delivered at a minimum to other Tribal agencies.

Hualapai Indian Tribe of the Hualapai Indian Reservation, Department of Natural Resources (Arizona) – Implementation Grant

The Hualapai Department of Natural Resources (HDNR) will implement protocols and procedures for data transfer and transmission as part of the program goals for the Implementation category of the EPA National Environmental Exchange Network. This network development and enhancement is integral to an ongoing effort led by HDNR to implement a digital data system for transmission of air and water quality monitoring data to the EPA and other agencies. The data include air quality, water flow and quality and meteorological data. Work for the 2004 grant will focus first on data pertaining to EPA's Air Quality System ("AQS") data stream. Data are collected from sampling and instrumentation stations located at remote sites and transmitted to a central Hualapai Tribe receiving station. HDNR proposes to develop protocols and software for assembly, review, and transmission of environmental data from the HDNR onsite environmental database (constructed and maintained using 2002, 2003 EPA Network Readiness Grants) to an offsite web server for both EPA download and public accessibility.

Several important programmatic goals of both HDNR and EPA will be targeted:

1. Develop standard operating procedures for data storage and transmission to an offsite web server, allowing access by EPA and others through the CDX.
2. Update HDNR Air Quality Assurance Plan ("AQAP") as necessary to include network and data management quality assurance procedures.
3. Integrate network development and data exchange capabilities with ongoing and proposed HDNR improvements to data collection, management and transmission for environmental monitoring.
4. Provide database and network training courses and workshops for HDNR personnel to enhance knowledge base for continuing Network maintenance and development.

Minnesota Chippewa Tribe, Fond du Lac Reservation, Environmental Department (Minnesota) – Implementation Grant

The Minnesota Chippewa Tribe (Fond du Lac Reservation) Environmental Department plans to create two and ten-foot contour digital elevation models (DEM) for the Fond du Lac Reservation. The Fond du Lac Reservation is mostly flat; therefore, accurate contours to the scale of two and ten feet are needed for many planning and modeling efforts. In 2002 and 2003, we were able to obtain leaf off aerial ortho-photography at a scale able to produce two and ten-foot contour DEMs. The goal of this project is to create at least ten-foot contour DEMs for the Fond du Lac Reservation. Proposed Activities: We plan to contract with Ayres and Associates, who took the original photography, to orthorectify the photography using global positioning system (GPS) data that is accurate to a few centimeters. This will be a significant refinement over the original orthorectification error of plus or minus 6 feet. Next, a digital elevation model (DEM) will be created consisting of many points having X, Y, and Z coordinates. DEM creation requires special computers and glasses that view the photography in 3-dimensions. It is also very labor intensive at the two-foot contour scale. Finally, once the DEM is created, software will create contours. Once the contours are completed, we plan to share this data with the Environmental Protection Agency (EPA), Minnesota Pollution Control Agency (MPCA), and the Minnesota Data Clearinghouse (MPC).

Navajo Tribal Utility Authority (Arizona) – Implementation Grant

The Navajo Tribal Utility Authority (NTUA) was created in 1959 to provide modern utility services in electric, natural gas, water, and wastewater services for the 183,000 people currently living on the Navajo Nation. At present, NTUA operates and maintains ninety community water systems and thirteen National Pollutant Discharge Elimination Systems (NPDES) permitted community wastewater systems throughout the Navajo Nation. For nearly twenty-five years, the NTUA Laboratory has sustained EPA laboratory certification and continues to provide analytical services for NTUA and the Navajo Nation and surrounding areas. The data is downloaded from the NTUA Laboratory's LIMS to the internal NTUA data-base, which is now outdated and can only be viewed by NTUA district personnel. The data is inaccessible for other external / private NTUA Laboratory customers. At present, NTUA submits data on a monthly basis to EPA and the Navajo Nation Environmental Protection Agency (NNEPA) in a paper copy. The purpose of the project is to replace the in-house, outdated database. The purchase of new hardware and software will allow access to NTUA Laboratory drinking water and wastewater data by the NTUA districts and departments, as well as private lab customers. This effort will provide accurate and real-time reporting to environmental regulatory agencies (i.e. EPA and NNEPA) using the Network Exchange. The reporting, storage,

and integration of data will be completed with the installation of the LIMS web-based software and the Wastewater Data Management System (WDMS) and interfacing it with EPA's Network Exchange. The new software also allows the incorporation of industry standards for reporting of data. The software eliminates tedious spreadsheet calculations and helps the laboratory's scheduling and tracking which improves system operations and monitoring, and best of all helps to decrease down time and errors.

St. Regis Band of Mohawk Indians of New York, Environment Division (New York) – Implementation Grant

The St. Regis Mohawk Tribe (SRMT) Environment Division (Division) will further develop its' network capabilities through the attainment of an implementation grant in the amount of \$150,000.00 for FY 2004. The Division will implement functions that make use of the technical infrastructure improvements acquired with NEIEN Readiness funding received for FY2002 and FY2003. Goals: 1) Implement frequent and efficient exchanges of data (Support real-time data access through the installation of a wireless network, Maintain T1 connection to ensure adequate bandwidth for data exchanges), 2) Ensure better data quality through the use of data standards and data validation/error detection (Create policy and guidelines for the release of culturally sensitive materials, Implementation plan for automatic data retrievals), 3) The ability to exchange a variety of data with a number of partners (Hire a Data Archivist, Production and release of training and informational videos), and 4) The ability to use common Exchange Network infrastructure capabilities - XML, common security controls (Update networking data flow QAPP).

Yurok Tribe of the Yurok Reservation, Environmental Program (California) – Implementation Grant

The Yurok Tribe will make improvements to increase the accessibility of data regarding the Klamath River and its tributaries to decision-makers in the Klamath River basin. These improvements will allow for the posting of real-time water quality data on a node of the Environmental Information Exchange Network (EIEN) (once the STORET interface is completed), allowing for instantaneous identification and, ideally, response to threatening river conditions. Until such time as the EIEN is capable of accepting this data, the Tribe will post water quality and weather data on an Internet webpage designed for that purpose, while providing STORET with manual updates of Tribal water quality information. This proposal also allows for an expansion of the real-time monitoring capabilities of the Tribe by adding three gauging stations and four water quality monitoring stations to the present one gauging station capable of real-time data transfer. The goals identified by the Yurok Tribe for this project include:

1. The establishment of data standards both for data collection and data sharing;
2. The establishment of a server to act as an exchange point for data distribution through the Environmental EIEN and the Internet;
3. The development of Tribal infrastructure to enable remote real-time data collection and sharing; and
4. Readiness to distribute collected data through the Internet to EPA, other Tribes, and interested parties within the Klamath basin.

TRIBES – CHALLENGE GRANTS

Central Council of the Tlingit & Haida Indian Tribes, Native Lands and Resources (Alaska) – Challenge Grant

The Central Council of Tlingit and Haida Indian Tribes of Alaska (CCTHITA) Native Lands and Resources will continue its efforts to further participation in Exchange Network by Alaska's 229 Tribes. The project activities will include the following:

1. Generating high user return for the Solid Waste Alaska Network (SWAN) website;
2. Implement an authorized use protocol for remotely updating data records by Alaska Tribes;
3. Pilot datastream transfer protocols with up to three Alaska Tribes or Consortia of Tribes;
4. Examine and evaluate RCRAInfo reliability and practicality issues in regards to Alaska Tribe use;
5. Collaborate with other Alaska Challenge Grant recipients on facilitating the use by Tribes of standard environmental data templates,
6. Demonstrate the use of CDC databases to evaluate risks to Alaska Tribes from open dump sites,

7. Expand the harvest, and subsequent transfer, of hard-sourced solid waste information to web-compatible format, and further developing node use as a distance-training tool; and
8. Promote web use as a primary information source and exchange vehicle to less technologically-advanced Tribes through the Central Council's established role as the primary provider of reliable RCRA-related information and training specific to conditions and cultures of Alaska Tribal communities (i.e. "Villages").

Southern Ute Indian Tribe of the Southern Ute Reservation, Environmental Programs Division (Colorado) – Challenge Grant

The Southern Ute Tribe is the lead agency for this project. The 27 Region VIII Tribes have embarked upon an effort to organize, evaluate, and format historic water quality data, to create updated methods and processes for present and future data collection, and to store all collected data in a regional warehouse. Additional funding from this grant will ensure the successful completion of the regional water quality management system, provide resources to assist the Tribes in the use of the system, and explore the capacity of the warehouse to serve as a node in the Exchange Network. Project activities will include the following:

1. Assist the Region VIII Tribes in the preparation and management of collected water quality data to be reported in a consistent format;
2. Provide the Region VIII Tribes technical assistance for migration of data, as well as data retrieval from the database system;
3. Provide the Region VIII Tribes software tools to general visual tools such as, graphs, and charts that will allow the Tribe to make water quality management decisions;
4. Support and maintain a regional warehouse for water quality data collected by the Region VIII Tribes;
5. Provide access for Tribes, EPA, and other secure partners to access data through the regional warehouse;
6. Provide training and workshops for participating Tribes on formatting, uploading, and managing data through the regional warehouse; and
7. Create initial design and specifications on establishing this warehouse as a node in the NEIEN network.

St. Regis Band of Mohawk Indians of New York, Environment Division (New York) – Challenge Grant

The St. Regis Mohawk Tribe (SRMT) Environment Division (Division) will focus on developing information systems technology for the St. Regis Mohawk Tribe Environment Division and then for other Nations within the Haudenosaunee Confederacy. The Division will implement a tribal node client and then work with other tribes to implement tribe-to-agency or tribe-to-tribe data flows.

STATES – READINESS GRANTS

Kentucky, Department for Environmental Protection – Readiness Grant

The Kentucky Department for Environmental Protection (DEP) will start the final phase of implementing an enterprise-wide, integrated environmental data management system. This system, named Tools for Environmental Management and Protection Organizations (TEMPO) and developed by American Management Systems, is the same system that is being implemented by New Jersey Department of Environmental Protection, New Mexico Environment Department, and Mississippi Department of Environmental Quality. The Kentucky implementation of TEMPO will support permitting, compliance, and enforcement activities for all delegated environmental programs. Kentucky DEP invested millions of dollars in hardware upgrades and development of the database to support all aspects of its programs. This system will allow the timely acquisition of high quality data, which is critical to environmental decision-making. The goal of this project is to implement a fully compliant Central Data Exchange (CDX) node utilizing the Mississippi Demonstrated Node Configuration (DNC). Specifically, the grant will be used to acquire the hardware, software, and consulting services necessary for Kentucky to implement the Mississippi DNC.

Nebraska, Health and Human Services System – Readiness Grant

The Nebraska Health and Human Services System (NHHS) will implement an operational Network Node. This project builds upon previous accomplishments by NHHS staff to enhance data quality and make Drinking Water

Program environmental data contained in Nebraska's Safe Drinking Water Information System (SDWIS/State) available to other partners and the general public. Project goals:

1. Actively participate in the NEIEN via the NHHS Network Node,
2. Receive complete and timely drinking water data from the field,
3. Receive complete and timely drinking water data from laboratories, and
4. Receive complete and timely drinking water data from public water systems.

Nevada, Division of Environmental Protection – Readiness Grant

The Nevada Division of Environmental Protection (NDEP) will develop the capabilities needed to participate fully in the Exchange Network. Grant funds will be used to plan, develop, test and implement an Exchange Network node. In order to validate and demonstrate operation of the node, annual air emissions inventory data will be submitted to EPA via the node in 2005. In addition, data will be mapped to enable flow of air monitoring data to AQS, once applicable XML schemas and data templates are available. The permit and compliance database used by the Bureau of Water Pollution Control will also be cleaned to enable future data mapping and data flows to ICIS-PCS. The project goals include building the necessary information systems and administrative infrastructures, acquiring technology skills, and preparing for future data exchanges using the Exchange Network.

Oklahoma, Department of Agriculture – Readiness Grant

A major statute responsibility of the Oklahoma Department of Agriculture, Food, and Forestry (ODAFF) is to prevent the pollution of the surface and ground waters of Oklahoma. ODAFF has a vast amount of environmental data relating to pesticides and fertilizers. ODAFF also has environmental data from surface and groundwater quality monitoring programs. To be useful to ODAFF and external stakeholders this data needs to be organized and standardized. The solution lies in upgrading our data processing network and developing a master facility database, building an Exchange Network Node, and a facility data viewer. This project includes four parts:

1. Upgrade the computer network,
2. Develop a master facility database,
3. Develop an Exchange Network Node, and
4. Develop a Facility Data Profiler or Viewer.

The project will result in an operational Exchange Network node that allows the secure exchange of environmental data between ODAFF, EPA, other states, and other environmental agencies within the state using the Exchange Network.

STATES – IMPLEMENTATION GRANTS

Arizona, Department of Environmental Quality – Implementation Grant

The Arizona Department of Environmental Quality (ADEQ) will expand the agency's network node functionality. This functionality builds upon the foundation developed with the agency's 2002 and 2003 Readiness Grants. ADEQ has developed a working node prototype and plans to begin exchanging facility data with the Facility Registry System (FRS) over the Network by September of 2004. ADEQ proposes to use the 2004 grant to share more data over the Network, not only with EPA, but with other Arizona state agencies to support homeland security. For its 2004 grant, ADEQ proposes the following activities:

1.
 1. Exchange ambient air quality monitoring (AQS) data with U.S. EPA over the Network,
 2. Exchange hazardous waste management (RCRAInfo) data with U.S. EPA over the Network, and
 3. Share environmental data to support homeland security in GIS format using the agency's node.

ADEQ has made good progress developing the technical and organizational capacity required to participate on the Network. The agency is on schedule to develop its node and flow facility data to FRS by the end of 2004. More importantly, ADEQ has strong commitment from senior management to use the node as the primary mechanism to share data with EPA, the public, and the regulated community.

California, San Diego County Air Pollution Control District – Implementation Grant

The San Diego Air Pollution Control District (District) will upgrade its central Data Acquisition System (DAS) and Laboratory Data Collection Systems (LDCS) in order to export data in XML format. The DAS handles all of our continuous air quality data collected at remote air quality monitoring stations throughout San Diego. The LDCS handles the data collected from our PM 2.5, PM 10, Photochemical Assessment Monitoring Stations (PAMS) and Toxics monitoring programs. This grant will allow us to improve the overall NEIEN by making air quality data from a major Southern California Air Quality Monitoring District available on the Exchange Network. The San Diego conversion will be a model that would be scalable and transferable to other air monitoring districts in California. The District will develop a Trading Partner Agreement with Cal/EPA to distribute air pollution and related data. Additionally, the District will make the project results available to California Environmental Protection Agency (Cal/EPA) upon their request. Cal/EPA may, at their discretion, share this information with other districts and organizations. The District will use an XML schema as determined by the EPA and the state of California.

Delaware, Department of Natural Resources and Environmental Control – Implementation Grant

The Delaware Department of Natural Resources and Environmental Control (DNREC) will continue its efforts to promote data flows from the Delaware node to EPA's CDX in the Environmental Information Exchange Network. Goals of this project include: Refine the data flows either completed or being implemented (FRS, Beach Data, PCS, NEI and SDWIS), Establish new data flows for Air Quality System (AQS) and Resource Conservation and Recovery Act Information System (RCRAInfo) to CDX, Establish the Substance Registry System (SRS) data flow using web services from CDX to Delaware Node.

Idaho, Department of Environmental Quality – Implementation Grant

The Idaho Department of Environmental Quality (DEQ) will implement an operational node on the National Environmental Information Exchange Network (Network) by the end of calendar year 2004. The DEQ Node will be designed to exchange environmental information with the United States Environmental Protection Agency (EPA) and other Network partners directly supporting and accelerating the development of the Network. The first release of the DEQ node will routinely exchange Facility Registry data with the EPA via EPA's Node (CDX), as well as exchange critical water quality data with EPA's Region 10 States.

This grant will allow DEQ to fund ongoing efforts, per the requirements of the One Stop, Readiness, and Challenge grant initiatives, as well as, allow DEQ to construct linkages to the Network by:

1. Implementing an operational and complete network node by the end of calendar year 2004, consistent with all four levels of security;
2. Proving node operations by updating EPA data through a flow of facility data to the EPA Facility Registry System (FRS);
3. Establishing node operations for a state-to-state flow of water quality data as a part of ongoing work to meet requirements of the Region 10 PNW Challenge grant initiative;
4. Making data available to EPA's STORET via CDX through established PNW Water Quality Data Exchange protocols;
5. Mapping SDWIS data to SDWIS Schema 2.0 and establishing node operations to flow SDWIS data to CDX;
6. Mapping NEI data to NEI Schema 2.0 and establishing node operations to flow NEI data to CDX;
7. Executing Trading Partner Agreements (TPA) with EPA Region 10 for all established flows; and
8. Continuing to build DEQ internal capacity to add network flows (AQS, AFS, RCRAInfo, UST/LUST) by utilizing agency enterprise architecture and the EIMS.

Illinois, Environmental Protection Agency – Implementation Grant

Pursuant to the award of a Network Readiness Grant on August 5, 2002, the Illinois Environmental Protection Agency (Illinois EPA) has been establishing the infrastructure and system development needed to participate in the Exchange Network and submit data to EPA through the EPA Central Data Exchange (CDX). A UNIX server, firewall upgrade and related hardware peripherals were purchased to establish the Node during 2003 at a cost of approximately \$100,000. Software acquisitions, including database software, to support Node operations have also been completed. A system administrator for Node operation has been designated by the Illinois EPA and he has configured out Node for data flow use. To assist in node development and XML programming for data flows, Illinois

EPA purchased the Suite 3.3 EPA Network Node software from XAware, Inc., along with related staff training and support. Illinois EPA is now submitting this final application package for funding under the Implementation Category of the Environmental Information Exchange Network Grant Program in order to facilitate operational use of Illinois EPA's Node related to certain data flows using the Exchange Network. Those data flows pertain to federal environmental programs. In particular, data flows associated with the Facility Registry System (FRS), the National Emissions Inventory (NEI), and the Integrated Compliance Information System- National Pollutant Discharge Elimination System (ICIS-NPDES) are addressed in this application. The Illinois EPA is applying for a Network Implementation Grant in order to continue its progress in promoting the efficient and effective utilization of environmental data for the purpose of improving the state's environmental conditions.

Indiana, Department of Environmental Management – Implementation Grant

The Indiana Department of Environmental Management (IDEM) outlines two workplans for their Implementation Grant. The workplans will provide the ability to share and integrate multiple data flows through the use of the Exchange Network

The DMR Workplan includes IDEM's participation in the Discharge Monitoring report (DMR) data flow portion of the Exchange Network. Project goals include:

1. Delivery of an essential DMR Data System for Indiana to use to participate in the DMR data flow; and
2. Establish a workable implementation model for Indiana which may be used for other states to become ready for the DMR data flow.

The Indiana Locational Data Exchange Workplan builds upon the existing technology infrastructure of the Indiana-Facility Registry System (I-FRS) to integrate locational coordinates with facility data. Project goals include:

1. Implement a method to integrate the IDEM locational data repositories into the central facility file within the I-FRS;
2. Demonstrate how the Exchange Network can be used to enhance data sharing and environmental decision-making with I-FRS facilities, locational data and attributes; and
3. Support the exchange of the data over the Network.

Iowa, Department of Natural Resources – Implementation Grant

The Iowa Department of Natural Resources (DNR) will implement three data flows from Iowa DNR to EPA using the Exchange Network. The project goals include the following:

1. Reduce burden and save time for both EPA and DNR by exchanging data using automated data flows through the Exchange Network;
2. Improve data quality by using data standards and standardized procedures that are overseen by a data steward; and
3. Improve decision-making for water supplies by integrating well data from SDWIS, Water Use, Geological Survey, and other partners.

The project objectives include the following:

1. FRS Data Flow: Implement the data flow from Iowa DNR's Environmental Facility Database (EFD) to EPA's Facility Registry System (FRS).
2. NEI Data Flow: Implement the data flow from Iowa DNR to EPA for Air National Emissions Inventory (NEI).
3. SDWIS Data Flow: Implement the data flow from Iowa DNR to EPA's Safe Drinking Water Information System (SDWIS).
4. Integrate well data for water supplies from the various Iowa DNR databases.

Kansas, Department of Health and Environment – Implementation Grant

The Kansas Department of Health and Environment, Division of Environment (DoE), will improve access to environmental data and the quality of data within environmental information systems. Data exchange between the Environmental Protection Agency (EPA) and state and local partners is of key importance to the agency. The DoE is implementing the goals established by the Environmental Information Exchange Network. The DoE received a One Stop Grant in 2002 and a Readiness Grant in 2003. The One Stop grant was used to develop a node and a FITS II database management system integrating databases from all five bureaus. Mapping capabilities and seven more databases will be incorporated into the system with the Readiness Grant. By April 2004, a functional node will be in

place. To test the node, data will be exchanged with the Central Data Exchange's Facility Registration System (FRS). This project will include work on the following data flows: the National Emissions Inventory (NEI), the Air Quality System (AQS) and the Integrated Compliance Information System–National Pollutant Discharge Elimination System (ICIS-NPDES). In addition to submitting data through the Exchange Network, the DoE plans to exchange data with state and local partners thus enhancing the quality of environmental information. The data within the SDWIS/KS database will improve because public water suppliers will be able to submit data electronically. (The Bureau of Water, Safe Drinking Water Program is already beta testing data flow with CDX/SDWIS.) A data exchange partnership between Oklahoma and Kansas may be developed.

Maine, Department of Environmental Protection – Implementation Grant

The Maine Department of Environmental Protection (MDEP) will continue the implementation of the State of Maine Network Node to support multiple State agency programs. Maine will be concentrating its efforts around implementing the Environmental Facility Information System (EFIS) and electronically capturing water quality test results. Proposed grant funding will support Network Node implementation work for at least four specific network flows planned as part of this effort:

1. Electronic submittal of water quality test results from laboratories and consultants to the Maine Safe Drinking Water Information System (SDWIS/State) in the Maine Department of Human Services.
2. Electronic submittal of water quality test results from laboratories and consultants to the Maine Environmental Groundwater Analysis Database (EGAD).
3. Facility data flows between the EFIS and the EPA Facility Registry System (FRS) for each environmental interest as it is implemented in EFIS. At least three environmental interests are planned for this period.
4. National Pollutant Discharge Elimination System (NPDES) information from EFIS to the EPA Permit Compliance System using the CDX-PCS Interim Data Exchange Format or the new NPDES XML-based format.

Additionally, Maine will seek to find other opportunities to capitalize on its investment in Exchange Network technology by planning and implementing other exchanges as resources and the state of the art allow.

Maryland, Department of the Environment – Implementation Grant

The Maryland Department of the Environment (MDE) will continue its efforts to develop an Exchange Network node to facilitate the exchange of information from Maryland's Enterprise Environmental Management System (EEMS) with EPA (through the Central Data Exchange) and with other Exchange Network partners. The primary purpose of the project is to further establish electronic data flows with EPA. The project activities will build upon previous efforts to establish the necessary infrastructure, both hardware and software as well as data, and will focus on the establishment of two additional data flows between the MDE network node and the EPA CDX and will include the following: the Resource Conservation and Recovery Act Information System (RCRAInfo) and the Integrated Compliance Information System – National Pollutant Discharge Elimination System (ICIS-NPDES). Through the joint development of Trading Partner Agreement, a revised quality assurance plan, and the modification of MDE's EEMS, this project will result in the establishment of an official, high quality data source for Maryland's environmental data that support RCRAInfo and ICIS-NPDES. These combined factors will create an environment that better serves the needs of the Environmental Protection Agency, the Maryland Department of the Environment, and the citizens of Maryland.

Massachusetts, Department of Environmental Protection – Implementation Grant

The Massachusetts Department of Environmental Protection (MA DEP) will utilize the Exchange Network by transferring facility identification information and Public Water System records from DEP's Environmental Protection Integrated Computer System (EPICS) database to the Safe Drinking Water Information System (SDWIS) and the Facility Registry System (FRS).

As EPA's Primary Agent for the federal Safe Drinking Water Act, MA DEP regulates water quality monitoring, new source approvals, water supply treatment, distribution protection, and reporting of water quality data. Use of the FY 04 Implementation grant funds will focus on

1. Working with EPA to implement technology improvements that will reduce the resources currently spent on collecting data from the public water suppliers and submitting drinking water data to EPA;
2. Improving the quality of facility identification data; and

3. Sharing Facility ID information with EPA; and 4) using the MA Exchange Network node to transfer SDWIS and FRS data to EPA.

Michigan, Department of Environmental Quality – Implementation Grant

The State of Michigan Department of Environmental Quality (MDEQ) will enhance the e-DMR data flow model (developed through a US EPA Challenge Grant in collaboration with several states) by creating an XML Web-services based data flow system for the State of Michigan's SARA Title III, Emergency and Hazardous Chemical Inventory (Section 312 of SARA Title III) reports and the AWR wastewater reports (Section 31111 of NREPA). Through this endeavor, the DEQ will effectuate real-time sharing of environmental information with the state and regional State Emergency Planning and Community Right-to-Know Commissions (SERCs), Local Emergency Planning Committees (LEPCs), fire departments, and the public for purposes of better decision making. Michigan has implemented an e-DMR data flow system, which is an XML and Internet based portal, to be the primary portal for facility-to-state data flows. Currently, the e-DMR data flow is in production and drinking water and ground water data flows will be added in 2004. This grant proposal is to expand MDEQ's existing e-DMR data flow system to accommodate the Tier II and AWR data flows. The project goal is to enhance the Exchange Network by developing a streamlined process to provide compliance assistance to regulated facilities that will reduce the reporting burden, improve data quality, and enhance the use of data by the LEPCs. In addition, it will support the SERC's, the LEPC's, and the Michigan State Police's antiterrorism efforts by providing real time accurate information.

Minnesota, Pollution Control Agency – Implementation Grant

The Minnesota Pollution Control Agency's (MPCA) project will flow additional data and improve the quality of important data to be flowed. The two project goals are as follows:

1. Flow two types of facility-state data and flow one type of state-to-EPA data, and
2. Improve quality of facility and other data to improve reliability and confidence in flow data.

The project will include the following:

1. Implement three data flows (DMR, NEI, and STORET),
2. Identify and correct data quality problems,
3. Train facilities and MPCA staff in new processes regarding ongoing data management practices, and
4. Pursue a variety of data improvement activities.

Mississippi, Department of Environmental Quality – Implementation Grant

The Mississippi Department of Environmental Quality (MDEQ) will build upon the work implemented under its 2002 and 2003 Network Grant Awards, which provide for the establishment of a Network node presence and for the development and implementation of four data flows from MDEQ's integrated information management system, enSite (electronic Environmental Site Information System) to the following EPA Systems: FRS, PCS/IDEF, NEI and RCRAInfo. MDEQ proposes to utilize the development and implementation of the Beaches Data Flow to mentor and train MDEQ staff on development and implementation of new data flows. MDEQ's Node contractor will work closely with MDEQ staff to develop and implement this flow. The Node contractor will also provide training on the development and support of the node flows for FRS, PCS/IDEF, NEI and RCRAInfo.

Missouri, Department of Natural Resources – Implementation Grant

The Missouri Department of Natural Resources (MDNR) will continue its efforts to integrate its environmental data management systems and creating a seamless, citizen-centered government. It will continue to develop Network data flows by adding to its Network exchange capabilities for the SDWIS data flow and NEI data flow. Both of these flows will be integrated with our FITS data model that was implemented in September of 2003 in our relational central data repository. MDNR will measure the success of this project by entering into two Trading Partner Agreements, successfully exchanging agreed upon data flows with appropriate EPA systems and accurately mapping these data to our system(s) of record. This will be a continued demonstration of our integration of the air and water facilities. This grant will allow MDNR to achieve significant advances in our ability to participate on the Network.

Montana, Department of Environmental Quality – Implementation Grant

The Montana Department of Environmental Quality (MTDEQ) will pursue the following activities:

1. Continue executing a data quality analysis against existing databases;
2. Deploy data quality standards, policies, procedures and guidelines;
3. Implement data quality audit policies and procedures;
4. Continue integrated systems development and data migration activities;
5. Expand the technical infrastructure of the Network Node;
6. Develop an Exchange Network Node linkage to the Montana State Library (MSL);
7. Implement a RCRA information data exchange from the state node to EPA;
8. Implement the transfer of facility information to the Montana State Library (NRIS);
9. Develop and sign a Trading Partner Agreement for facility information with the Montana State Library (NRIS);
and
10. Develop and sign a Trading Partner Agreement Addendum with the EPA for RCRA information.

Completing these goals is the next step for the MTDEQ to fully participate in the secure exchange of information with other Network Partners using the standards and protocols championed in the Exchange Network initiative. This grant will fund the second phase of the transition to the Exchange Network standards and strategically position the MTDEQ to develop and implement additional Trading Partner Agreements and data flows with the public, other state government organizations, the regulated community and other states.

Nebraska, Department of Environmental Quality – Implementation Grant

The Nebraska Department of Environmental Quality (NDEQ) will continue to implement the information systems plan it designed in 1992, i.e., to have all of its facility information in one system, available for use by all staff. The grant will be used to continue moving forward with its integration efforts, building its information system, and making any information it has available through the Exchange Network. This grant will build upon the work completed or underway with its previous Exchange Network grants. NDEQ expects to use its node for all required EPA information exchanges by the end of 2005 or 2006.

New Hampshire, Department of Environmental Services – Implementation Grant

The New Hampshire Department of Environmental Services (and now in partnership with the NH Office of Information Technology) has been actively engaged in the planning, design, testing and development of the Exchange Network from the beginning. This grant project includes five related projects:

1. Ongoing Network/Node Management
2. Phase II Facility/Beach/Measures Flows
3. Drinking Water Data Exchange
4. AQS XML Exchange Project

In this application New Hampshire is proposing to continue and build upon this work by moving into the production phase of beach and facility data, developing flows for drinking water data and air monitoring data, and beginning to include the public in Network data exchanges. We will also continue to devote resources to provide Network-related infrastructure and to manage and coordinate the department's Network activities.

New Jersey, Department of Environmental Protection – Implementation Grant

The New Jersey Department of Environmental Protection (NJDEP) will implement XML data exchanges using the Exchange Network for three data flows: FRS, SDWIS and Private Well Testing Act (PWTA) data. NJDEP has produced a technical plan to develop an operational Exchange Network node and is in the process of creating the node to enable it to fully participate in exchanging data with the USEPA, states, and other partners over the NEIEN. That work is being accomplished through FY02 and FY03 USEPA Readiness Grants and will be completed in the summer of 2004. Funding under the FY04 Implementation Grant will be used to map New Jersey data to the approved schemas, to finalize the transformation of SDWIS and FRS data, and to complete those data exchanges. In addition, this Implementation grant will be used to build on the work developed through the FY02 USEPA Lab to State Drinking Water (eDWR) Challenge grant to allow laboratories to use the same XML schema and web services interface to submit PWTA water analysis data.

Ohio, Environmental Protection Agency – Implementation Grant

The Ohio Environmental Protection Agency will work on developing the Exchange Network data flow for SDWIS. The objectives of the project include the following:

1. More frequent and/or efficient exchanges of data;
2. Better data quality through the use of data standards and data validation/error-detection mechanisms;
3. An enhanced ability to share and integrate data through the use of data standards, XML schema, and/or Exchange Network Web services;
4. the ability to exchange a variety of data with a number of partners;
5. the ability to provide access to new kinds of data using the Exchange Network; and
6. the ability to use common Exchange Network capabilities.

Oklahoma, Department of Environmental Quality – Implementation Grant

The Oklahoma Department of Environmental Quality (ODEQ) is currently engaged in a project known as "Nexus." Nexus is an integrated, agency-wide database. It includes a cross-media database application focused around the concept of a Master Facility List (MFL). The 'Nexus' project has as an integral component the successful development of the Data Exchange Network. The strategic goal of this project is to provide an improved data tracking and reporting system as it relates to regulated entities and programmatic processes, as well as the subsequent communication of XML data to the EPA, other states, tribes, territories, and the public when appropriate. Furthermore, ODEQ endeavors to bridge prior successes and future directions in order to maintain and advance a tradition as a leader in the coordinated flow of environmental data. Our intent is to develop into a regional leader in terms of active participation in the Data Exchange Network. Project milestones include, but are not limited to the following:

1. Implement Facility Profiler system via Windsor Solutions Inc.;
2. Final selection and configuration of a 'node presence' on the data exchange network;
3. An FRS data flow via the node;
4. An NEI data flow;
5. A SDWIS data flow;
6. An AQS data flow;
7. A STORET system and corresponding data flow;
8. An IC (Institutional Controls) data flow; and
9. Evaluation, analysis, and development plans for remaining flows as targeted by the EPA, to include RCRAInfo, ICIS-NPDES, and TRIS.

Oregon, Department of Environmental Quality – Implementation Grant

Oregon Department of Environmental Quality (ODEQ) placed its Exchange Network node into production in December 2003. Facility Registry (FRS) data is being reported in production mode, and a master TPA with Region 10 is nearing completion. ODEQ's NEI data has been mapped to version 2 of the schema, awaiting testing. This grant project will focus on implementing Network flows with other states and with EPA national systems. Although the proposal will address flows included in earlier proposals, the work proposed is different, and is based on a much-improved understanding of the Network flow implementation process. Specifically, ODEQ will undertake the additional effort required for lead states and EPA to establish the specifics of a new flow. Project Focus and The project objectives include the following:

1. ODEQ will implement one state-to-state data flow with the state of Washington's Department of Ecology. Oregon and Washington share a very similar application covering the hazardous waste portions of the RCRA program. The application currently allows comparison of generator records and TSD receipt records only if both are located in that state. We will jointly implement an exchange (including development of appropriate schema and methods) to exchange the necessary data, and implement within our applications the functionality to compare records.
2. ODEQ will implement the data flows identified in the implementation guidance with the exception of TRIS. In addition, ODEQ will participate in IPTs and pilot groups as necessary to develop the necessary understanding of the process, and participate in the production of tested and workable FCDs for each of the following: NEI (using

the emerging 3.0 schema), RCRAInfo, SDWIS, and AQS. In addition, ODEQ is scheduled to begin PCS/IDEF implementation in August 2004.

3. **Information Sharing:** For all work items below, Oregon will offer consultation with other states on lessons learned, and will make available any software products developed to address specific issues. Consultation will be provided by telephone, or in person upon request from another state. Any resulting travel and staff time must be grant-funded due to state budget restrictions. By participating in early pilots for identified flows, Oregon will provide input to FCD development.

South Carolina, Department of Health and Environmental Control – Implementation Grant

The South Carolina Department of Health and Environmental Control will develop flows for NEI, RCRAInfo, TRI, State Hazardous Waste Quarterly Reports, and Underground Storage Tank information. The project will build upon the previous work accomplished with the Exchange Network Grant Program, will develop additional processes and programs to improve the quality of data received by DHEC from its regulated facilities and, in turn, will provide higher quality data to the EPA and other exchange partners. The project will also provide efficient methods of data transfer that will enable transfers to occur more frequently, thus reducing the need for lengthy data reconciliation processes and the risk of poor quality decisions.

Texas, Commission on Environmental Quality – Implementation Grant

The Texas Commission on Environmental Quality (TCEQ) has steadily increased its participation in the Network in phases. The TCEQ is currently working on Phase I and Phase II through previous NEIEN Readiness grants. This grant is focused on putting two new flows, Facility Registration System (FRS) and Air Quality System, in to the TCEQ Node. Phase III would not be possible without first completing Phase I and Phase II. Phase III, with funding requested through this FY04 Implementation Grant, centers around adding additional flows to the TCEQ Node. TCEQ already tackled Oracle license upgrades and building a common framework through the previous phases. The next logical step is to add additional flows to the TCEQ Node while maintaining the Node framework. This requires additional funds to prepare the data, map the data to the schema, and plug the flow in to the framework.

With the completion of the objectives in this proposal the TCEQ Node will have three operational data flows; NEI, FRS, and AQS. These flows consist of a diverse range of requirements for both the TCEQ and CDX Node including flow methodology, frequency, size, and sheer volume. The selection of NEI, FRS, and AQS reflects the emphasis placed on implementing these data flows by the EPA. Creating a data flow for AQS data has previously been identified by the EPA as a high priority for Implementation Grants. NEI and FRS data flows were identified as a priority. Additionally, XML schemas have already been created to flow NEI, AQS, and FRS data.

Vermont, Agency of Natural Resources – Implementation Grant

The Vermont Agency of Natural Resources (VTANR) will begin the production flow of Vermont-specific environmental data to the US EPA through the Vermont network node. The proposed work builds upon the technical infrastructure development underway in current Network Readiness and Challenge grant projects. In turn, this will further improve the operation of our environmental programs, and better prepare us to take on additional responsibilities while participating on the National Environmental Information Exchange Network. Under the FFY 2002 and FFY 2003 Network Readiness grants, we are committed to: deploying a State of Vermont network node that employs Extended Markup Language (XML) technology; enhancing and converting selected environmental databases, migrating and test-flowing selected environmental data sets; deploying a Facilities Identification Template for States (FITS)-compatible facility/site database; integrating our geographic information system (GIS) with a new, centralized, environmental database platform, and a document management system (DMS). As a partner in a FFY 2002 Network Challenge grant, we are also working to establish an XML-based electronic flow of laboratory data to the Drinking Water program. In addition to the main goal of establishing a network node for use with the US EPA and other potential trading partners, another overall system integration objective of the projects is to employ GIS as an Internet portal through which related environmental information is made more accessible to both staff and the public.

Virginia, Department of Environmental Quality – Implementation Grant

The Virginia Department of Environmental Quality (VADEQ) will establish multiple data flows through the EPA's Central Data Exchange (CDX). VADEQ has been a very active participant in the Network Exchange Grant program for the past few years and has made a commitment to become one of the premier nodes on the National Environmental Information Exchange Network (NEIEN). This agency fully understands that the EPA requires faster access to environmental data, especially those that could pose a significant risk to the general population and/or Virginia's ecosystem. Providing that data in XML format, which is a universal standard, via a VADEQ node would enable immediate access by the EPA, other NEIEN participants, and the general public.

The implementation of the initial nodal data flows will take place according to the following work plan:

1. Identify Project Resources;
2. Analysis and Design Phase: Map Data Flow to Existing Database(s);
3. Build Phase: Programming and Coding of Application Solution;
4. Accept and Implement Phase: Allow Facility Access; and
5. Sharing of Best Practices.

Washington, Department of Ecology – Implementation Grant

The Washington Department of Ecology will focus on implementing additional Exchange Network flows with EPA national systems and with other states. Although the proposal will address flows included in earlier proposals, the work proposed is different, and is based on a much-improved understanding of the Network flow implementation process. The project will include the following:

1. Assuming that the required data standards, XML schemas, etc. have been developed as part of the Network, Ecology will implement data flows for the Resource Conservation and Recovery Act Information System (RCRAInfo), STORET (both beach monitoring and water quality monitoring data), Air Quality System (AQS) (dependent on related Network Challenge Grant application), and biodiversity data (NatureServe) (dependent on related Network Challenge Grant application). In addition, Ecology will provide outreach to the State Department of Health regarding Safe Drinking Water Information System (SDWIS) data flows.
2. Ecology will implement one state-to-state data flow with the Oregon DEQ. Washington and Oregon share a very similar application supporting the hazardous waste portions of the RCRA program. The application currently allows comparison of generator records and TSD receipt records only if both the generators and TSDs are located in that state. We will jointly implement (including development of appropriate schema and methods) an exchange of the necessary data and implement the functionality to compare records within our respective applications.
3. Sharing Results: For all work items below, Ecology will offer consultation with other states on lessons learned, and will make available any software products developed to address specific issues. Consultation will be provided by telephone, or in person upon request from another state within the limits of available grant resources.

West Virginia, Department of Environmental Protection – Implementation Grant

The West Virginia Department of Environmental Protection (WV DEP) Implementation Project consists of several primary tasks, all related to the improvement and exchange of Air Quality information between WV DEP, EPA, and other approved Exchange Network participants. This project will build upon the existing state Node for additional data flow exchanges with EPA's CDX Node.

The purpose of this project is:

1. To provide the Division of Air Quality (DAQ) with an improved and enterprise-level IT system;
2. To improve the quality of Air Quality information being tracked; and
3. To improve the flow of data from its primary gatherers and current repositories to other interested users.

The goals of this project are:

1. Re-engineering of the primary IT system of DAQ, AirTrax, to run again Oracle DB for more robust database support;
2. Implementation of the AQS data flow on the Exchange Network; and
3. Implementation of the I-STEPS National Emissions Inventory data flow on the Exchange Network.

Wisconsin, Department of Natural Resources – Implementation Grant

The Wisconsin Department of Natural Resources' (DNR) node became operational on February 6, 2004, with the successful flow of its facility data from the Environmental Site Register to EPA's Facility Registry System through the Central Data Exchange. This project will implement Exchange Network flows between the Wisconsin DNR's node and CDX for the following systems:

1. Air Quality System (AQS)
2. National Emission Inventory system (NEI)
3. Safe Drinking Water Information System (SDWIS)
4. Resource Conservation and Recovery Act system (RCRAInfo). This flow was not included in our pre-proposal pending Schema development. We are including it in this proposal.
5. Air Compliance System (AIRS AFS). This flow was included in our pre-proposal to sound out EPA's interest in accelerating the development of this flow. We're still willing to contribute towards that goal but will not implement it at this time.

STATES – CHALLENGE GRANTS

California, Environmental Protection Agency (Department of Water Resources) – Challenge Grant

The California Environmental Protection Agency (Cal/EPA), Department of Water Resources (DWR) and SWRCB's Surface Water Ambient Monitoring Program (SWAMP) will leverage and expand the existing distributed environmental data management system that has been successfully implemented within DWR's collaborative Bay Delta and Tributaries project. The objective is to make California's environmental data compatible and accessible for analysis and reporting (including the 303 (d) report in 2006), by expanding this data management system. The expanded system will be known as California's Environmental Data Exchange System (CEDES), and will be the environmental field component of the Cal/EPA network. Data exchange with the EPA's Environmental Information Exchange Network (EIEN) will be accomplished using EPA's new network protocols. CEDES will be accessed by the Exchange Network via the Cal/EPA node. This project will be completed within two years of participants receiving requested funds. The scope described in this proposal is ambitious and participants in this grant will work with Region 9 EPA to establish priorities. A significant factor that makes this proposal possible is that many components of this system already exist saving both funding and time. In addition, we will also work with Regions 9 EPA to establish the best combinations of cooperative agreement and grant that will most successfully accomplish the scope defined in this proposal. If EPA chooses, the web services component of this proposal can be split out, and completed in the Implementation grant sent in with this proposal. This would provide more resources for setting up local infrastructure so data can be obtained from the many participants. Participants of this Grant are dedicated to share all information assembled during this project via EIEN and STORET.

California, Environmental Protection Agency (OEHHA and DPR) – Challenge Grant

The California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHA) and Department of Pesticide Regulation (DPR) will construct a web-based, integrated pesticide-related illness data exchange system (WebPIR) comprised of four primary functions: (1) physician illness reporting; (2) pesticide incident investigation, (3) physician education, and (4) data exchange. The WebPIR will be designed to comply with federal and state data collection and exchange standards, as specified in the grant announcement. The overall purpose of this effort is to generate timely, accurate, and complete physician reports of pesticide-related illness and efficient exchange of pesticide illness reporting and incident investigation data, resulting in more effective recognition, response, control, and prevention of pesticide-related illness. This project will advance the overall vision of the U.S. EPA NEIEN grant program by making pesticide-related illness surveillance information accessible via an NEIEN Exchange Node. Likewise, this project supports the intent of the U.S. CDC Environmental Public Health Tracking (EPHT) grant program, within the context of state statutory authorities. Implementing this proposal will take advantage of California's existing state and local network of pesticide illness surveillance systems. Moreover, it will build upon expanding features of an emerging web-based disease and illness reporting system, known as the WebCMR (Confidential Morbidity Report) that is being implemented by the California Department of Health Services (DHS).

California, Environmental Protection Agency (Unified Program Office) – Challenge Grant

The California Environmental Protection Agency (Cal/EPA) has delegated the regulation of hazardous materials to certified local agencies, called Certified Unified Program Agencies (CUPAs). The CUPAs are required to submit inspection and enforcement information to Cal/EPA on an annual basis. However, because there is no capability for electronic submissions, the current process requires that only summary data be submitted. And, since there is currently no method to transmit this information electronically from these local CUPA agencies to the Cal/EPA, there correspondingly is no way to submit this inspection and enforcement information or other facility-based information to the USEPA RCRAInfo data collection point. Only a few local agencies have stated that they will perform their own data entry into RCRAInfo, as this means reentry of information already in their data systems or on paper copies. Some may be able to provide the data electronically. However, for the most part, USEPA is shouldering the burden of key entering this data into the RCRAInfo system. Because USEPA has identified this as a priority with the requirement for ongoing quarterly updates of the LQG data into RCRAInfo, this will continue to be a resource intensive task until some method is found to "harmonize" the reporting of the disparate CUPAs via some automated system.

The Cal/EPA Unified Program Office project will be conducted in four phases:

1. Cal/EPA Assumes Responsibility for Acquiring Data and Updating RCRAInfo for Large Quantity Generators (LQG)
2. Expand Processing Capabilities of the CUPA System and Provide EIEN Exchange Node Access & Updating
3. Expand Processing Capabilities of the CUPA System and Provide EIEN Exchange Node Access & Updating
4. Implement Enhanced Reporting and Analytical Capabilities on the CUPA System

Delaware, Department of Natural Resources and Environmental Control – Challenge Grant

The Delaware Department of Natural Resources and Environmental Control (DNREC) will exchange biodiversity data -- data which are important for environmental agencies to share but that have previously been available only through data requests to the custodian agencies that house these data sources. Access to these data will benefit states, EPA, and other authorized Exchange Network users that play a role in conservation planning, environmental regulation and decision-making. This project proposes to utilize all components of the current Exchange Network, including Network Nodes, XML Schema, and NAAS security. All state participants in this challenge grant are committed to the Exchange Network, and we are bringing along a new partner, NatureServe and its network of natural heritage programs. NatureServe, a non-profit organization, and the network of 75 natural heritage programs and conservation data centers, collectively are the nation's leading source for detailed data on rare and endangered species and threatened ecosystems. The natural heritage data are widely used for conservation planning and for environmental regulation and management by all states. Online access to these unique biological data resources will expand the Exchange Network to support this important data flow.

Kentucky, Governor's Office for Technology – Challenge Grant

The Kentucky Governor's Office for Technology (GOT) will enhance the use of watershed modeling in Kentucky's environmental decision-making. Partners include: KY Department for Environmental Protection, KY Office of Geographic Information (OGI); KY Commonwealth Office of Technology (COT), U.S. Environmental Protection Agency (EPA) Region IV; Open GIS Consortium (OGC); U.S. Geological Survey (USGS). A web-based portal, the Kentucky Watershed Modeling Information Portal (KWMIP) will quickly and accurately deliver current, and appropriately formatted watershed model input data for 2 to 5 selected models. Training will expand water resource manager's understanding of the uses of modeling to support decision-making and enhance the holding community's efficiency and technical capability. After this project, the KWMIP will be maintained and improved through e-commerce fees from non-governmental users. Government agencies will not be charged to use the portal.

The project objectives include the following:

1. Increase the frequency of watershed model use to support environmental decisions;
2. Improve modeling efficiency and quality by serving appropriately formatted data over the web and providing a spatially distributed precipitation model;
3. Leverage existing and developing KY and national data by training KY water resource managers and modelers on the value of modeling, the KWMIP, and supported models;
4. Establish mechanisms to provide technical and financial stability for KWMIP beyond this project;

5. Validate and extend work of OGC to define and develop vendor neutral service interfaces to water modeling component software; and
6. Interface to the current Exchange Network and allow for future inclusion/expansion to KY node (in development).

Michigan, Department of Environmental Quality – Challenge Grant

The Michigan Department of Environmental Quality is the lead agency for this project. Partner states include: Maine, New Hampshire, and New Jersey. This project will design and implement a generic Homeland Security Data Flow Configuration (DFC) to allow States to make available their Environmental, Health, and Safety information to national security, law enforcement, intelligence communities, and the general public in support of the federal government's National Strategy for Homeland Security. EPA's Strategic Plan for Homeland Security, released September 2002, identified the effective management and sharing of environmental, health, and safety information as one of the four mission-critical areas in which the EPA can support the government's National Strategy for Homeland Security. This proposal will meet this goal by providing states with an infrastructure, based on Exchange Network technologies and tools, to support secure and timely availability of their environmental, health, and safety information. This project is broken down into three major parts:

Part A: Technology & Business Process Research

Part B: Infrastructure & System Design

Part C: Implementation of Homeland Security Data Flow for Member States

Minnesota, Pollution Control Agency – Challenge Grant

The Minnesota Pollution Control Agency (MPCA) will expand the data flows in the Exchange Network to include hydrographic-related geospatial data and demonstrate the value of sharing these integrated data through the Exchange Network. The MPCA, partnering with the Minnesota Department of Administration's Land Management Information Center (LMIC) and working through the Minnesota Governor's Council on Geographic Information Hydrography Committee, proposes to enter into a cooperative agreement with EPA to research and develop the systems and methodologies necessary to support hydrographic-related geospatial data flows via the Exchange Network. We propose to conduct this effort in close cooperation with the EPA's Office of Water to leverage their substantial previous efforts, and to insure that we are consistent with existing tools, reporting mechanisms and data systems already developed and in use. Successful implementation of this system will allow other state and federal partners to similarly share and exchange their data, saving resources and insuring all users' access to the most current and complete data. The purpose of this proposal is to enable the flow of geospatial information for activities or events that can be referenced to the National Hydrography Dataset (NHD). This project is designed to achieve the following goals and objectives:

1. Develop a common repository of features and activities that geographically relate to or affect surface waters. Develop a reach address database, similar in concept to EPA's RAD
2. Establish the reach address database as a competent repository of features and activities for Minnesota users to share.
3. Develop the data flows to enable both general and 303(d)-specific hydrologic-related geospatial event data to be shared through the Exchange Network.
4. Develop statewide policies and procedures for NHD hydrologic feature and event data update, maintenance and distribution.
5. Use this system to maintain an authoritative source of 1:24,000 scale NHD data for a state (i.e. Minnesota).

Minnesota, University of Minnesota – Challenge Grant

The University of Minnesota will design and implement protocols and related software to facilitate the submission of research data and metadata to the EPA via the CDX / Exchange Network framework. Research data does not have standardized formats like most of the regulatory CDX data flows currently implemented, instead it is described by standardized metadata. Metadata, or "data about data", is essential if research data is to be usable by anyone other than those that perform the research. The present lack of tools for bundling research data with metadata mean that much of the value of research data is lost, with either effort being duplicated, or questions going unanswered. A protocol for bundling research data and metadata via the CDX network would address this need. There are two

distinct components to our proposed system, a web-based EML metadata editing system, and a CDX data flow (called RDXP) for bundled research data and metadata. The EML entry system can be used independently of CDX, whereas RDXP is dependent on the availability of a metadata entry system. The metadata standard used does not have to be EML, although that seems to be the standard best describing ecological data and using XML-Schema natively. We have a working prototype of the EML metadata entry component, although it is not currently distributable and requires some additional development. So we propose to consolidate work on the EML entry system, and then develop the components of a CDX data flow to carry research data bundled with metadata.

New Jersey, Department of Environmental Protection – Challenge Grant

The New Jersey Department of Environmental Protection is the lead for this project. The other participating states are New York and Delaware. The States of New Jersey, New York, and Delaware share common air sheds. Dirty air transported into the area and emission sources in and across these states impact one another. As a result, it is important for each state to know what air quality is like in the other. This information is needed within and across air sheds to evaluate current environmental conditions, environmental trends, is key to health tracking, and is critical to homeland security (particularly emergency response) efforts. At present, only a limited amount of air monitoring information is easily available. The states intend to improve data sharing, data use, and to provide more consistent information across the region. To accomplish this, the data needs to be available to the individual states more quickly so that they can catch and address issues as soon as possible. Therefore, the states are proposing a project that will allow us to use the National Environmental Information Exchange Network (NEIEN) to exchange AQS XML data flows, not just with EPA, but state to state. We are proposing to implement a virtual, customizable, regional air quality monitoring network using the NEIEN. The main goals of this proposed project are to demonstrate state to EPA, XML AQS data exchange to CDX, demonstrate state to state XML AQS data exchange utilizing the NEIEN, and to demonstrate the need for state to state data exchange by integrating, analyzing and displaying the exchanged data.

Pennsylvania, Department of Environmental Protection – Challenge Grant

The Pennsylvania Department of Environmental Protection is the lead agency for this project. Partners include Maryland, Virginia, and the Chesapeake Bay Program Office (CBPO). The purpose of this project is for the Chesapeake Bay partnership to use EPA's NEIEN to exchange Best Management Practice (BMP) installation or implementation data from the Chesapeake Bay Program jurisdictions to the CBPO for a) input to the regions' Watershed Module (Phase V) and b) input to various information technology presentation tools developed for regional use. The project will address the development and registration of XML schema to exchange of the NEIEN Non-Point Source BMPs that affect nutrients and sediments. The selection of this project is based on the business value to the bay states, CBPO, regional interests and the bay partnership. It will also provide value to the EPA's State of the Environment Report. Since the project will have the jurisdictions exchanging information with the newly formed CBPO network node, the regional data will not go through EPA's CDX. Therefore, functionality provided by the CDX will be undertaken by the CBP regional network nodes.

Project tasks include the following:

1. Conduct a survey to determine the status of each of the Chesapeake Bay states network node and data exchange capability;
2. Build a network node at the CBPO office; and
3. Form the State/EPA Integrated Project Team that handle that BMPs. implemented within a state's portion of the Chesapeake Bay drainage basin.

Washington, Department of Ecology – Challenge Grant

The Washington Department of Ecology will work on improving the ability of States to prevent, prepare for, and respond to events that threaten the Nation's homeland security. These improvements will be realized through the examination, design and implementation of a generic Homeland Security Data Flow to allow States to make available their Environmental, Health, and Safety information to interested parties, which may include national security, law enforcement, intelligence communities, and other agencies identified during the initial stages of the project. "EPA's Strategic Plan for Homeland Security", released September 2002, identified the effective management and sharing of environmental, health, and safety information as one of the four mission-critical areas in

which the EPA can support the government's National Strategy for Homeland Security. In particular, the Plan mentions that "EPA possesses unique capabilities to collect, synthesize, interpret, manage, disseminate, and provide understanding to complex information about environmental and human-made contaminants and the condition of the environment. Effectively managing and sharing this information within the Agency and with its partners at all levels of government and industry will contribute to the nation's capability to detect, prepare for, prevent, protect against, respond to, and recover from terrorist incidents. EPA will also work to ensure that clear structures are in place to exchange relevant information with the national security, law enforcement, and intelligence communities." This proposal will meet this goal by providing states with an infrastructure, based on Exchange Network technologies and tools, to support secure and timely availability of their environmental, health, and safety information.

TERRITORIES – READINESS GRANTS

Guam - Environmental Protection Agency – Readiness Grant

The Guam Environmental Protection Agency (GEPA) will develop an Exchange Network node and begin using it to exchange data with EPA. By implementing the Agency's Three Year Plan for Information Management Reform, Guam EPA plans to improve environmental data quality and availability while making significant advances toward Network node implementation through the following steps:

1. Implement improvements to the Agency's network and database infrastructure;
2. Develop targeted data flows for exchange via the Network;
3. Develop the necessary human resource and organizational capacity to manage the Agency's information technology programs; and
4. Expand GEPA's Geographic Information Systems (GIS) program to improve functionality at the program level.

Northern Mariana Islands - Division of Environmental Quality – Readiness Grant

The Commonwealth of the Northern Mariana Islands (CNMI) Division of Environmental Quality (DEQ) will pursue the following activities as it works to build connections to and participate in the Exchange Network:

1. Prepare a blueprint to improve its information technology. This will include evaluating existing systems and developing specific recommendations to advance DEQ's participation in the Exchange Network.
2. Establish an official information source and steward, including the implementation of standard facility identifiers compatible with the Facility Identification Template for States (FITS2) the integration of DEQ data collection, reporting, and management in a unified in-house system, and developing DEQ data flows in line with U.S. EPA Central Data Exchange (CDX) priorities.
3. Acquire the technical infrastructure for Internet node operation. This will entail the installation of a Local Area Network (LAN) at DEQ. We are now in the process of installing a LAN. Additionally we will develop our database systems, implement in-house Web and email servers, and install appropriate security features including certificates and firewalls.
4. Enhance and expand DEQ's Geographic Information System to improve capacity at the program level. This will include development of data layers and metadata for all regulated facilities and permitted activities.

TERRITORIES – IMPLEMENTATION GRANTS

Puerto Rico, Environmental Quality Board – Implementation Grant

The Puerto Rico Environmental Quality Board (PREQB) will build on its previous Exchange Network activities and pursue the following tasks:

1. Build on current Air Quality data flow to CDX by upgrading to EPA's new XML based schemas and web services for the Air Quality System.
2. Design and implement a system that will integrate all processes related to air media.
3. Submit additional data flows to the CDX Exchange Network Node, including submission of emissions data to the National Emission Inventory (NEI) via CDX.
4. Reengineer an integrated facility information system to allow for future submittal to EPA's Facility Registry

System (FRS).

Moreover, the PREQB will make high quality environmental data available to the public under this new grant request. On a separate, but nonetheless related project, the PREQB will also develop an enterprise-wide GIS system, with an emphasis for supporting emergency response activities.